

Applicant : Anthony Mazarakis
Serial No. : 10/049,659
Filed : February 15, 2002
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Attorney Docket No.: 13932- 002001
Examiner: Suhan Ni

Remarks

In view of the above amendment and the following remarks, Applicant requests reconsideration of the rejection and asks that all claims be allowed. Claims 1-11 are pending with claim 1 being independent. Claims 1 through 11 and the specification have been amended. No new matter has been added.

The specification, abstract, and claims have been objected to for informalities. These informalities are believed to have been adequately addressed in the amendments above.

Claims 1-11 have been rejected under 35 USC 112, second paragraph for being indefinite. Applicant believes this rejection has been addressed by the above amendments to the claims.

As amended, claim 1 is directed to a thin diaphragm electroacoustic transducer having at least two elongated interlaced coils for use as loudspeaker. The electroacoustic transducer includes a field replaceable sound-emitting diaphragm that can be replaced without needing to manipulate wires, the electroacoustic transducer including a magnetic system, a thin foil diaphragm, and a diaphragm sound emitting assembly. The magnetic system includes an upper plate pole, two side poles, a central pole and a row of Neodymium magnet bars. Two air gaps are formed between the upper plate pole and the central pole and magnetic lines transversing the gap and create a high density field. The thin foil diaphragm carries at least two thin aluminum conductors forming at least one binary interlaced coil, the two thin aluminum conductors being built the one into each other, and being situated substantially in the plane of the magnetic lines transversing the air gaps, wherein the conductors of the diaphragm, when crossed by the same intensity of flux lines perpendicularly, at the totality of their length, are subject to the same force F upon the application of $F=Bli$. The diaphragm sound emitting assembly includes a frame made of non-ferrous sheet metal, on which is tensioned a vibratable thin diaphragm that includes a high temperature polymer on which are formed two elongated coils of aluminum foil, the elongated coils being identical, symmetrical, and interlaced the one into the other.

Claims 1-11 have been rejected as being anticipated or obvious in view of Okuyama (U.S. Patent No. 6,341,167).

Okuyama discloses a loud speaker that includes a magnetic circuit (6) containing a magnetic gap and magnets (5), a frame (3) connected to the magnetic circuit, and an integral unit

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(11) that includes a voice coil bobbin unit (11b) and a diaphragm unit (11a). However, Okuyama fails to describe or suggest an electroacoustic transducer for use as loudspeaker that includes (1) the thin foil diaphragm carrying at least two thin aluminum conductors forming at least one binary interlaced coil; or (2) a sound-emitting diaphragm that can be replaced without needing to manipulate wires, as recited in claim 1.

Okuyama describes the prior art as having problems of loosening of the coil on the diaphragm unit and using adhesives to attach a supplemental cover (8a, 9b). Okuyama describes improving the prior art process by using an improved method of making the integral unit 1, which includes the voice coil bobbin 1b and the diaphragm 1a. In his method, Okuyama describes the numerous similarities between his process and the prior art process (col. 3, lines 4-8) but specifies forming a U-shaped unit from an H-shaped sheet of a hard material rather than a rectangular-shaped sheet and then winding a magnetic wire around the formed sheet to form a coil 1c. See Fig. 7 and col. 2, lines 48-57. Okuyama does not describe or suggest that either the prior art or his method includes at least two conductors or wires, as recited in claim 1.

Okuyama also does not describe or suggest that his diaphragm assembly can be replaced without needing to manipulate wires, as recited in claim 1. As described above, Okuyama's objective is to address problems with making his integral unit that includes the voice coil bobbin unit and diaphragm unit. He addresses this by using a sheet of a different shape than the prior art. Nothing in Okuyama describes or suggests changing the prior art single wire to the two conductors recited in claim 1. For at least these reasons, claim 1 and dependent claims 2-11 are allowable over Okuyama.

If deemed necessary, Applicant requests as a small entity a two month extension of time (\$215.00) for responding to the Office Action dated May 26, 2004. Applicant believe that an extension of time fee is not necessary because he never received the mailed Office Action. Instead, upon contacting the Examiner for a status check of the application, Applicant's representative was informed of the mailed Office Action. Applicant's representative only found out much later that the Office Action could be downloaded as an image file through the PAIR system. Accordingly, Applicant asks that the date for responding to the Office Action be reset. The USPTO is authorized to apply any charges or credits to Deposit Account No. 502923. Applicants claim a small entity status.

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Should the Examiner have any questions about this amendment and response, he is invited to contact the undersigned at the number below.

Respectfully submitted,

Date: October 26, 2004

William D. Hare
William D. Hare
Reg. No. 44,739

William D. Hare
3 Anderson Lane
Princeton, New Jersey 08540
USA

Telephone: (609) 240-2533

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William D. Hare

Signature: William D. Hare